

MULTIFAMILY PROGRAMS

ARCHITECTURAL PROCESSING REQUIREMENTS

The purpose of this document is to provide the developer and the project architect with the processing standards, by which proposed new construction multifamily developments will be reviewed, evaluated and approved. The objective of these standards is to maintain the quality level of the Agency's projects for long term marketability, durability and livability, and thereby enhancing CalHFA's role as a Portfolio Lender.

In order to achieve its objective, the Agency's Architectural Services Department will perform periodic reviews of the architectural documents at various stages of design development and construction document preparation as well as perform regular monitoring and observation during construction.

The Architectural Processing Requirements consists of the following seven major parts plus the Index. The development team should review and familiarize themselves with the documents and be prepared to ask any questions during the project's first Concept Meeting. The project architect is encouraged to discuss the requirements with the Agency's professional staff in the Los Angeles office before the Concept Meeting and before project designs are finalized.

PARTS:

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I. ARCHITECTURAL FIRM QUALIFICATIONS

Project Name: _____

CalHFA Project No.: _____

1. Name of Firm: _____

Address: _____

Telephone: () _____

2. Year Firm Established:

3. Staff (provide as attachment)

a. List principals of firm, California registration numbers and professional field.

b. Provide resumes or Statements of Qualifications for professional staff who will be responsible for this project.

4. List multifamily developments for which this specific firm, as listed above, was the project architect. List separately projects done as employee of other firms. Include the following information:

a. Name and address of development

b. Number of units (indicate family or elderly)

c. Date completed

d. Construction cost

e. Building construction type and number of stories

f. Type of financing (i.e., conventional, federal or state)

g. Please submit firm brochure, photographs, and related documents of firm's representative work.

5. Will the firm be the supervising architect for this development?

6. Is there any legal relationship or conflict of interest between the architect and developer or the contractor?

7.

- a. Has the firm been involved in any litigation within the last 10 years? If the answer is yes, give details.
- b. Does the firm have Errors and Omissions insurance in sufficient amount to cover the proposed development?
- c. Name of insurance company, policy number and expiration date:

The undersigned certifies that the information above and in any attachments is true, correct and complete to the best of his/her knowledge and belief.

Signature

Title

Date

II. DEVELOPMENT STANDARDS AND SPECIFICATIONS

These requirements have been developed by CalHFA to define a minimum level of quality and project scope of work. They are intended to be used in conjunction with local, state, and federal codes, as well as good industry trade practices, in establishing acceptable standards for project design and construction. These criteria were formulated based upon CalHFA's underwriting, property management and maintenance, and design experiences with CalHFA financed projects over the past 23 years. They will help to ensure the durability, livability, and/or marketability of the projects for the life of the mortgages. The Agency will consider any alternates that satisfy the intent of these criteria. (Note: For the convenience of the architect, the following items have been generally categorized according to the basic 16 CSI Divisions; not all 16 Division Headings have been used.)

DIVISION 1 - GENERAL REQUIREMENTS

AIA-A201 GENERAL CONDITIONS

AIA-A201 General Conditions, latest edition, and CalHFA Special Conditions (Part VI, Page 1, , MP APR).

ACCESSIBILITY

The design and construction requirements of all plans and specifications shall conform to all accessibility criteria established by the applicable codes and statutes, including but not limited to the California Administrative Code, Title 24, Fair Housing Amendments Act (FHAA), Section 504 of Rehabilitation Act of 1973, as amended, the Uniform Federal Accessibility Standards (UFAS), and The Americans with Disabilities Act (ADA). Publicly financed and/or federally assisted projects may need to meet additional requirements. See Part III, Page 1, Accessibility Standards, CalHFA MP APR, for additional requirements.

CONFORMITY

All plans and specifications must conform to the most current edition of the Uniform Building Code (UBC) for life/safety and seismic design, unless accepted otherwise by CalHFA.

All design and construction shall conform to State and Municipal laws, codes, ordinances etc. For structural design, materials used, and methods of construction, refer to applicable state and local municipal building codes; CalHFA reserves the right to use the latest UBC and/or other structural requirements that may be recommended by its engineering consultants to reduce the seismic risk exposures on its projects. Each project will be evaluated based upon its particular design and geographic setting. Projects shall be constructed under all applicable local building permits and inspection procedures.

PROFESSIONAL LICENSE

All architects, engineers, and other licensed professionals shall be registered to practice within the State of California. A California licensed architect is required on all projects with 16 apartment units or more. For smaller developments a licensed engineer may be acceptable. See Part I, Page 1, Architectural Firm Qualifications, CalHFA MP APR, for additional requirements.

MAINTENANCE WORKSHOP

All CalHFA projects are to have on-site maintenance workshop/storage facilities unless approved otherwise by CalHFA. For design purposes, the architect should use 4-8 sq. ft. times the number of units to determine the minimum size for family projects; for senior projects, where the degree of wear and tear is expected to be less, use 2-4 sq. ft. times the number of units to determine the size. A work bench, service sink, floor drain and shelving are to be provided.

MANAGERS UNIT

All CalHFA projects are to provide at a minimum, a two bedroom manager's apartment unit when on-site management facilities are required.

MANAGEMENT OFFICE

All projects 16 units or larger are to have on-site management space. Use 2.5-3.5 sq. ft. times the number of units starting at 100 units to determine size. Larger projects should have a private office plus a reception/clerical area. Otherwise, use the following guide:

16-25 units = 80 sq. ft.

50-100 units = 175-250 sq. ft.

25-50 units = 100-200 sq. ft.

100 units plus = 250-300 sq. ft.

RECREATION AREA

All CalHFA elderly projects of 16 units or more and family projects of 25 units or more are to have on-site, enclosed recreation/community space, using the following guidelines for size:

Elderly

Net Area

Under 50 units	=	25 sq. ft. per unit
50-99	=	1250 sq. ft. plus 20 sq. ft. for every unit over 50
100+	=	2250 sq. ft. plus 15 sq. ft. for every unit over 100

Family

Net Area

Under 100 bedrooms	=	8 sq. ft. per bedroom
100 bedrooms plus	=	800 sq. ft. plus 4 sq. ft. per bedroom over 100

Outdoor common play or recreation area shall be provided for all age groups in family projects, including safety approved play equipment. Types of equipment required will be determined project-by-project, depending upon size, unit mix, and the prospective tenant market of project.

CLOSET/STORAGE SPACE

The amount of closet and general storage space in the apartment units shall be comparable to similar market units in the area. Unless Market Studies indicate less closet space as acceptable, the minimum outlined in the Agency's Furnishability Guide (See Page 22, Attachment II) shall be used. Entry coat closets shall be provided at all units. Linen closets should be provided at multi-bedroom units.

THREE BEDROOM UNITS

It is recommended that three bedroom units and larger be located at the ground floor only to accommodate and enhance the lifestyles normally associated with large families with children. Apartment units of three bedrooms and larger shall not be located on the third floor or higher, unless pre-approved otherwise by the Agency.

COMMON AREA ACCESSIBILITY

See Part III, Page 4, Accessibility Standards, CalHFA MP APR, for requirements.

CONSTRUCTION MATERIALS

The construction materials selected shall be low maintenance, durable and suited to the environmental conditions to which the product will be subjected.

PRODUCT NAMES and ALTERNATIVE MATERIALS

See Part V, Page 4, Specifications, MP APR, for requirements.

DRAWINGS AND SPECIFICATIONS

See Part VI, Page 1, Special Conditions, MP APR, for requirements.

GUARANTEES AND WARRANTIES

Contractor shall guarantee all work and materials for a minimum of one year except as listed below. The guarantee period shall be based on the date of completion of the work and certificate of occupancy. After acceptance of the building, if during the guarantee period any defects or faulty materials are found, and upon notification by the architect

and/or CalHFA, the contractor shall immediately, at his/her own expense, replace and repair them. This includes any damage to non-defective work.

- The following work shall be guaranteed in writing for two years, unless otherwise noted, after acceptance of the building in accordance with previous paragraph.
 1. Roofing (3 years)
 2. Sheet metal
 3. Caulking and sealants
 4. Wood doors
 5. Elastomeric coating, (if any)
 6. Damp proofing
- A minimum written one year guarantee is required for all other work of the project except where a longer guarantee period is specified.

DIVISION 2 - SITE WORK

LANDSCAPE SITE PLAN

A landscape site plan done by a qualified landscape architect shall be provided to enhance the quality of life, appearance and marketability of the development.

- Screening should be provided to buffer wind, noise, and incompatible or unsightly site and adjacent land uses.
- A variety of plant species shall be provided in sufficient quantities based on good customary landscaping practices in the general market area.
- An automatic timed irrigation system shall provide complete coverage to all landscaped areas.
- Quick couplers/hose bibs shall be distributed throughout the site at 150' o.c. maximum spacing for convenient service access and at trash enclosures around the site.
- At least 20% of the specified trees shall be of box sizes, strategically located throughout the site for maximum effect.

In addition, the landscape scope of work shall provide a minimum 90 day maintenance period and a 1 year guarantee of plant materials. The maintenance and guarantee period shall begin when the landscape architect and CalHFA have accepted the landscape installation and materials as conforming with the plans and specifications. The landscape architect shall submit a letter of landscape acceptance to CalHFA. See Part IV, Page 4, Architectural Loan Submission Package, and Part V, Page 3, Construction Contract Documents, CalHFA MP APR, for additional requirements.

ASPHALT PAVING

All asphalt paving shall receive a seal/slurry coat as soon as possible and before stripping is done.

OFF-SITE WORK

All off-site work necessary for the occupancy of this project shall be considered included in the scope of work. All off-site work necessary for the marketing of the project is to be completed by the initial project rental period. All off-site points of connections for necessary utilities shall be included in the scope of work. See Part IV, Page 7, Architectural Loan Submission Package, CalHFA MP APR, for additional requirements.

SOILS/GEOTECHNICAL REPORT

A current soils/geotechnical report is to be incorporated as part of the project's scope of work and project specifications. Requirements for fill, base course, site preparation, parking lots and driveways, pavement (including those sections traveled by garbage trucks), and other land improvements are to be included as part of the soils report. See Soils Report, Part IV, Page 2, and Part VI, Page 5, Architectural Loan Submission Package, CalHFA MP APR, for additional requirements.

CONCRETE APRONS

Concrete aprons with a minimum 6" thickness shall be used at all trash dumpster areas to eliminate asphalt damage during trash collection. Curbs and/or other protective designs shall be used within trash enclosures to prevent damage by trash dumpsters.

FOUNDATION AND SLAB

Foundations and slabs on grade designs are to be per recommendations of the soils report.

- Damp-proofing for slab on grade is to be per soils report; a minimum of 6 mil polyethylene sheeting is required.
- The base course shall be 2" of sand over 6 mil polyethylene sheeting over 4" of crushed rock whenever a finish floor is applied to an interior concrete slab (or as recommended by soils report).

See Part IV, Page 2, Architectural Loan Submission Package, CalHFA MP APR, for additional requirements.

SITE GRADING

Site grading shall provide for positive surface drainage with the following minimum slope gradients:

- Slope away from buildings: two percent (2%) for a minimum of 5'
- Pervious sloped swales: one percent (1%)
- Concrete gutters/swales: half of one percent (0.5%)

Site shall be graded to preclude ponding of surface water within site boundary. Provide concrete swales in driveways and parking areas for drainage. Walkways are not to be used as paved drainage swales. All walks shall be cross pitched one percent minimum for drainage. Use as reference to Part IV, Page 7, Architectural Loan Submission Package, CalHFA MP APR.

CURBS

Provide concrete curbs or a four foot (4') wide concrete walkway at all driveways and parking areas to separate landscaping from asphalt. Wood or steel curbs, as well as redwood headers, between asphalt and landscaping are not acceptable. Provide concrete wheelstops in parking lots; concrete walks may be used as wheelstops if they are of sufficient width as not to interfere with safe pedestrian use.

FLOOR ELEVATIONS

Finish floor elevations for all habitable spaces shall be above 100 year base flood elevations and as may be recommended in the soils investigation report.

SITE PRESERVATION

The layout of the site and the design of the project shall attempt to utilize and preserve favorable features including existing trees and other plants which enhance the environmental worth of the site.

SOIL TREATMENT

Provide the necessary soil treatment to inhibit the infestation of termites in wood construction. Upon completion of work, deliver 3 copies of five year warranty against infestation to CalHFA construction inspector.

FENCING

All projects are required to have a minimum 6' high project property line perimeter fence of cedar, redwood, wrought iron, or masonry design. Use of other fencing material requires review and approval of CalHFA.

Private apartment unit patio fences are required and shall be 5' high unless approved otherwise by CalHFA; on senior projects where unit patios front on an interior and/or secured common open courtyard space, patio enclosures with heights less than 5' will be considered. Fences shall be masonry, redwood or cedar.

DIVISION 4 - MASONRY

RETAINING WALLS

All site retaining walls over 18" in height shall be constructed of concrete masonry block or concrete to avoid early costly replacement and/or repair of less durable materials, such as wood.

DIVISION 5 - METALS

SHEET METAL

All sheet metal shall be non-corrosive and have a minimum thickness of 26 gauge. Flashing and gutters shall be 26 gauge minimum.

DIVISION 6 - WOOD AND PLASTIC

CARPENTRY

Each piece of lumber and plywood shall be graded and marked with the grade and trade mark of a recognized lumber grading association or an independent inspection agency authorized to grade the species by the American Lumber Standards Committee.

Wood shelving shall be self-edged 3/4" industrial grade particle board, minimum 45# density or 3/4" plywood with edgebands. All shelving shall be securely supported every 32" to prevent sagging. Manufactured closet storage systems of good quality, such as Closet Maid, may be used; spans shall not exceed those recommended by manufacturer.

Plywood sheathing or other acceptable subflooring materials shall be fabricated with waterproof (exterior) glue. Exterior grade plywood must be used for all exterior sheathing. Floor sheathing shall be glued and nailed with the longest joint of each panel perpendicular to the floor joists.

SHEAR WALLS

Ground floor and all floors above ground floor that support another floor are required to have all shear panels be plywood. OSB (Oriented Strand Board) may be used in lieu of plywood at the floors, roofs and shear walls provided that the OSB is of the same thickness, grade and span rating as the plywood specified on the sheathing and shear wall schedules. Alternate methods/materials will be considered if structural calculations permit.

HANDRAILS

Handrails complying with ANSI 117.1 shall be provided on at least one side of building/tenant corridors in housing for the elderly and/or the disabled.

CABINETS

Cabinets shall be paint/stain grade wood, low or high pressure laminate. Vinyl covered cabinets are not acceptable. The Agency's minimum cabinet specifications are equivalent to WIC (Woodwork Institute of California) Custom Grade Specifications (this is the middle grade, with premium being the top grade and economy being the bottom grade). Equivalent WIC Economy Grade cabinets are also acceptable with modifications as listed in Attachment 1.

Sample base cabinets are to be submitted to the Agency for review and approval before purchase. Alternatively, WIC "Compliance Certified" Custom Grade cabinets are accepted as meeting the Agency's standards without the need for review.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

GUTTERS AND DOWNSPOUTS

Gutters and downspouts are to be used when roof overhangs are less than 12" for 1-story buildings or are less than 24" for 2-story buildings. Gutters or diverters are to be used at entries, landings, steps, etc. Locate downspouts to drain either into concrete splash blocks, approximately 12" wide X 20" long, which spill onto lawn or planter areas large enough to absorb outflow or directly into an underground drain system. Roof diverters may be installed provided water run off will spill onto lawn areas large enough to absorb run off. Concentrated flow or discharge of water on pedestrian walkways and landings shall be avoided.

ROOFING

Roofing contractor shall have at least 5 years of successful experience in the installation of roofing systems specified for the project and shall be acceptable to or licensed by the manufacturer of primary roofing materials. Any and all roofing inspections by certified roofing inspectors are to be performed as necessary to obtain manufacturer's warranty and guarantee.

- *Built-up roofing* shall carry a 20 year manufacturer's warranty with a three year maintenance guarantee by contractor. The three year maintenance guarantee shall require the contractor to inspect and/or pay for the inspection of the entire roofing system for three years. The guarantee shall cover all repairs caused by failure of the roofing materials, faulty workmanship or any other causes attributable to all roof related work and materials furnished and installed by the contractor at no cost to the owner for a period of three years after initial acceptance of installation.
- Inadequate conditions of the surface to be roofed shall not be cause for contractor to be absolved of responsibility to perform.

- *Shingle roofing* shall carry a three year subcontractor guarantee and 20-year manufacturer's warranty. Shingles shall be stick tab, 220 pound minimum, class A asphalt -- fiberglass shingles. Flashing and gravel stops on structures three stories or higher shall be 26 gauge stainless steel, copper or aluminum as appropriate or 26 gauge galvanized sheet metal.
- Minimum *roof slope* shall be 3/8" : 12".

PLANTER WALLS

All planter walls used as, or adjacent to, building walls, shall be completely waterproofed with a membrane and drainage system.

DIVISION 8 - DOORS AND WINDOWS

EXTERIOR DOORS

All exterior doors shall be protected from exposure to sun, rain and other climatic conditions with overhangs, awnings, and/or other design features to prevent delamination and warping. Exterior doors shall swing in, unless approved otherwise by the Agency. Masonite and other similarly finished doors should be avoided due to rapid deterioration.

GARAGE DOORS

All individual enclosed garages attached to apartment units are to be equipped with 1/2 hp (or larger) remote operated garage door openers unless approved otherwise by the Agency.

EXTERIOR ALUMINUM

All exterior aluminum shall be anodized or prefinished to prevent deterioration.

WEATHERSTRIPPING

Weatherstripping shall be installed at the sides, top and bottom, of all exterior doors, to form an all-weather tight seal.

THRESHOLD

The threshold unit at exterior door sills shall be aluminum with a vinyl bulb/sweep or shall be a metal on metal carpet strip. The threshold shall be attached to the floor with screws and caulked to form a tight seal. Install threshold the full width of opening. Threshold shall conform to all applicable codes for accessibility.

PAINT-GRADE DOORS

All solid-core, flush paint-grade doors shall have hardwood or hardboard faces, softwood edges, standard one year guarantees and all six sides factory primed. Hollow-core, paint grade doors shall have hardboard faces, softwood edges and shall be factory primed for enamel paint on all six sides. Hardboard faces or wood veneers shall be a minimum of 1/8" thick on prefinished interior built-up doors. Decorative laminate faces are not allowed. Metal clad exterior doors are also acceptable.

ALUMINUM WINDOWS OR SLIDING GLASS DOORS

All aluminum windows or sliding glass doors shall have an anodized finish rather than a mill finish. Baked enamel paint finish is also acceptable.

All operable windows shall have screens with interior security latches.

LOCKSETS

Locksets shall be primarily of steel construction with a five pin tumbler lock, and a one-sided, keyed, dead-bolt installed above the lockset. Schlage series F or equivalent is acceptable. All apartment entry doors shall have a peep hole/viewer.

Masterkeying shall be provided to the owner. Common area or perimeter locks shall be keyed alike. A key schedule is required, with all keys to be accounted for.

Bathroom privacy locks shall have emergency keys furnished for each bathroom. Master bedrooms are to have privacy locks also.

ACCESS DOORS/HATCHES/ELECTRICAL PANELS

Access doors/hatches/electrical panels shall be painted to match the surrounding walls and shall be installed in locations of low visibility, especially from the entry/living/dining/kitchen areas.

DIVISION 9 - FINISHES

VINYL FLOORING

Vinyl flooring must be guaranteed for a minimum of 5 years by the manufacturer. Pattern shall extend through full thickness of tile. Laundry areas and baths must have sheet vinyl flooring. Kitchen areas must have vinyl tile or sheet flooring.

CARPETING

Carpet complying with HUD/FHA UM44C (or the latest HUD Use of Materials Bulletin) shall be provided in all spaces with the exception of the kitchen and bathroom unless otherwise approved by CalHFA. Carpet cushions shall comply with UM72-80.

PAINT

Minimum coats of paint are to be applied in strict accordance with manufacturer's recommendation.

- Interior walls One coat of washable latex with good coverage
- Bathroom, kitchens & hallways Sealer + 2 coats of semi gloss enamel
- Stucco Integral color or primer / sealer + 2 coats
- Doors Primer + 2 coats on all 6 sides
- Exterior wood Prime + 2 coats or sealer + stain
- Interior wood Prime + 1 coat
- Exterior masonry unit Integral color or at least 2 coats of masonry paint
- Exterior metal - Galvanized steel or iron Prime + finish coat

BASEBOARDS OR FLOOR MOLDINGS

Baseboards or floor moldings must be provided in all rooms and closets. Two and one half inches minimum height for wood and 4" minimum height for coved vinyl or rubber base are recommended (rubber or coved vinyl required at bathrooms and kitchens).

EDGING STRIPS

Install edging strips at unprotected flooring edges. Secure metal edge strips to substrate with countersunk, stainless steel anchors.

EXTERIOR SIDING

Unexposed backside of all exterior siding shall be back-primed and/or finished per manufacturer's recommendations.

DIVISION 10 - SPECIALTIES

CONSTRUCTION SIGN

All projects shall have a construction sign 4' X 8' or larger, erected at start of construction with the following minimum information: project name, permanent lender, the equal housing logo, the handicap logo, and any other information desired by the owner/developer. See Part VI, Page 7, Special Conditions, CalHFA MP APR, for additional information.

PROJECT SIGN

An illuminated project monument sign with the project name and the street address shall be provided.

GRAPHIC ITEMS

The scope of work shall include all signs, lettering, paint striping, building address and apartment numbers, and other graphic items necessary for functional identification purposes. Signage must also conform to all applicable accessibility codes and regulations for the physically challenged.

MINIMUM BATHROOM ACCESSORIES

- Two towel bars (minimum 24" lengths)
- Toilet tissue holder
- Shower curtain rod (screw flange mount)
- Full width mirror over lavatory vanity
- Recessed medicine cabinet or comparable storage within the bathroom
- See Part III, Page 3, Accessibility Standards, CalHFA MP APR, for additional requirements

MAILBOXES

Exterior mailboxes shall be sheltered, illuminated, and accessible to the physically challenged.

GRAB BARS

All senior housing units shall have a minimum of one 48" long grab bar installed in all bathtubs. All grab bars are to be installed per UFAS and Title 24 requirements in the designated units to be built-out for the physically challenged per CalHFA policy. See Part III, Page 3, Accessibility Standards, CalHFA MP APR, for additional requirements.

DIVISION 11 - EQUIPMENT

TRASH CHUTES

Trash chutes are required in buildings 3 stories high and over, unless approved otherwise by CalHFA after review of common industry practices for projects of a similar nature or as dictated by market conditions. Garden type apartments and townhouses are not required to have chutes. All elevator buildings for the elderly are to have trash chutes. An accessible ventilated trash room vestibule shall be provided at all trash chutes with interior trash vestibules to be mechanically ventilated.

APPLIANCES

Refrigerators, range/ovens, range hoods, and garbage disposals are to be provided for every living unit; ducted range hoods are required in family projects and ductless hoods are acceptable in senior apartment units. All refrigerators are to be frost-free/automatic defrost. Minimum sizes are 14 cf for 1 and 2 bedroom units; 16 cf for 3 bedrooms and larger. Ranges are to be 30" wide with front mounted controls and an oven door view window. Garbage disposals are to be 1/2 hp for family projects and minimum 1/3 hp for elderly projects.

Side-by-side refrigerators, staggered/offset burner cooktops with front controls, and wall ovens with glass doors are to be provided for all built-out accessible CalHFA units. (See Part III, Page 3 for additional information and exceptions.)

All projects 16 units or more with community/recreation spaces shall have community kitchens. For projects 25 units or less, the minimum kitchen equipment shall be a sink, refrigerator, a range/oven or a two (2) burner cooktop with a microwave, and a ducted range hood. For projects over 25 units, the kitchen facilities shall be based on anticipated usage/need but in no instance shall it be smaller than a standard apartment unit residential kitchen.

Kitchen appliance requirements for assisted care units may be less than those for independent living and will be determined on a project-by-project basis, based upon program and market considerations.

See Page 14, Laundry Facilities, CalHFA MP APR, for requirements.

DIVISION 12 - FURNISHINGS

WINDOW COVERING

Draperies for all windows shall extend a minimum of 4" above, below and to the sides. Draperies for all sliding glass doors shall extend a maximum of 4" above and to the sides with minimum gap 1" above the floor. Drapes and/or miniblinds are to be provided on all projects at all windows unless approved otherwise by CalHFA. All glazed areas shall have flame resistant drapery, vertical or miniblinds. Blinds must be lead-free.

TRAVERSE RODS

Traverse rods shall be provided for all windows requiring drapes, including sliding glass doors.

DIVISION 14 - CONVEYING SYSTEMS

ELEVATORS

Elevators will be required in multi-story buildings for the elderly/physically challenged

unless specifically waived by CalHFA. Market considerations will determine elevator requirements in other building types 3 stories or taller. Elevator capacity shall be 2500 lbs. or larger to provide accessibility for the physically challenged. A maintenance contract will be required.

DIVISION 15 - MECHANICAL

LAUNDRY FACILITIES

Common laundry facilities are to be provided unless individual apartment unit washers and dryers are furnished. As a guide, a minimum of 1 washer and 1 dryer shall be provided for every 30-40 residents in elderly projects. For garden walk-up apartments, provide a minimum of 1 washer and 1 dryer for every 9-13 families (units). Provide a laundry sink, folding tables, seating, and a floor drain within the laundry facility.

At least one front load washer shall be made available for use by the physically challenged.

Where a common laundry is not provided, a washer and dryer shall be provided in every apartment unit.

See Part III, Page 4, Accessibility Standards, CalHFA MP APR, for additional requirements.

DOMESTIC WATER PIPES

All domestic water pipes are to be copper type "L", "M" or "K". Type "M" is not acceptable for under slab use. Under the slab and in the slab use of hard temper types "K" and "L" shall be with brazed joints only. Soft temper "K" and "L" are to be used under or in slabs only without joints. However, it is strongly recommended that water pipes not be placed under slabs. Under slab pipes frequently get punctured and/or bent during construction, reducing the clear diameter of the pipe. Also, future pipe failure would be more expensive to repair and replace.

WATER HEATER/CENTRAL BOILERS

All water heaters are to be of current manufactured, gas fired, and equipped with pressure and temperature relief valves.

Water heater minimum capacities are to be:

- 30 gallons for 1 bedroom units
- 30 or 40 gallons for 2 bedroom units (depending upon number of plumbing fixtures)
- 40 or 50 gallons for 3 bedroom and 4 bedroom units (depending upon number of plumbing fixtures)
- 50 gallons for 5 bedroom units and larger

Central boilers, providing domestic hot water to individual apartment units, are acceptable only with CalHFA review and approval, on a project-by-project basis. Where a central boiler system is used, a back-up boiler will be required to maintain service in case of equipment failure; for projects or buildings with 25 units or less, a backup system is not required. With the exception of single building elderly projects, separate water heaters serving individual apartment units and allowing for individual metering are expected to be used.

KITCHEN SINKS

Double bowl kitchen sinks are to be provided on all family projects. Single bowl sinks, with a minimum width of 24", are acceptable on elderly projects or family projects if dishwashers are furnished.

Rear corner discharge sinks are to be provided in accessible units with kitchens built-out for the physically challenged.

BATHROOMS

- All three bedroom units or larger shall have a minimum of 1+3/4 baths; four bedroom units and larger shall have a minimum of 2 full baths; two story townhouse units may require an additional 1/2 bath above the minimum. (See Page 22, Furnishability Guide, Attachment II)
- All bathrooms are to be heated (See HVAC, Page 15)
- All bathrooms are to have lavatory vanities conforming to CalHFA Cabinet Specifications and to applicable accessibility regulations.

AUTOMATIC SETBACK THERMOSTATS

Automatic setback thermostats are to be provided per applicable codes.

INTERIOR PUBLIC CORRIDORS

(See HVAC, Page 16)

ACCESSIBLE UNITS

CalHFA built-out accessible units are to have grab bars installed per requirements and locations identified by Title 24 and the Fair Housing Amendments Act. See Part III, Page 1, Accessibility Standards, CalHFA MP APR, for additional requirements.

WATER PRESSURE

Water pressure in the main or other source of supply shall be per the latest edition of the Uniform Plumbing Code.

BATHTUBS

Bathtub surrounds shall be fiberglass or ceramic tile. Marlite panels are not acceptable for surrounds or wainscots. All tubs shall have overflow outlets.

In CalHFA built-out accessible units for the physically challenged, tubs shall be equipped with pressure balanced, temperature control, mixing valves. See Part III, Page 3, Accessibility Standards, CalHFA MP APR, for additional requirements.

MULTIPURPOSE COMMUNITY/RECREATION ROOMS

All multipurpose community/recreation rooms are to have separate public toilet(s) for women and men.

MULTIPLE ACCOMMODATION

Toilets at the community/recreation buildings are to be provided in larger projects with the following minimum plumbing fixtures:

Elderly projects of 75 units or larger and Family projects of 125 units or larger:

Women: 2 lavatories	Men: 2 lavatories
2 water closets	1 urinal
	1 water closet

HVAC

All community/recreation rooms and management facilities are to be heated and air-conditioned through a central mechanical system unless approved otherwise by the Agency.

All apartment units of 2 bedrooms or larger are expected to have central HVAC systems unless specifically waived by the Agency after a review of comparable market units.

In 2 bedroom units or larger, the bedrooms must be capable of being heated and/or cooled with the bedroom doors closed.

All projects containing apartment units that are required to keep their windows closed to mitigate exterior noise levels are to be air conditioned unless approved otherwise by CalHFA.

All bathrooms are to be heated. Heat lamps are not to be used since they are not as effective as other heat sources, and the special infrared bulbs are very expensive to replace.

All bathrooms must be mechanically ventilated unless window location is conveniently accessible for all tenants, including the physically challenged, children, and the elderly.

All interior public corridors in apartment buildings are to be mechanically ventilated. Additionally, the interior corridors in elderly projects are to be heated.

DIVISION 16 - ELECTRICAL

LIGHT FIXTURES

- Site and building lighting fixtures shall be energy efficient (i.e. high and low pressure sodium vapor, mercury vapor, fluorescent, quartz). All project areas expected to be used by pedestrians after sunset shall be adequately illuminated for safety and security purposes.
- An adequate ceiling light fixture will be required to illuminate the dining and adjacent areas.
- A wall or ceiling light fixture should be provided in each bedroom. At minimum, a switched receptacle is required at the bedroom furniture wall.
- Fixtures on the exterior shall be vandal resistant. Install exterior lighting fixtures to illuminate all entries, patios or balconies. Timer controlled and/or photoelectric site lighting shall be installed to ensure all exterior areas are well lighted. Site lighting shall be provided by a combination of residential scale pole lamps and building fixtures.

UNDERGROUND UTILITIES

All on-site utilities are to be placed underground. Off-site utilities affecting the visual curb appeal of the project or affecting views may be required to be underground, to be determined on a project-by-project basis by CalHFA.

INTERCOM/DOOR/GATE RELEASE SYSTEM

All secured projects and/or buildings shall have an intercom/door/gate release system operated from the individual units.

DOOR BELLS

Hardwired doorbells are required at the primary entrance to every dwelling unit by the California Building Codes.

TELEPHONE JACKS

A minimum of two telephone jacks is to be provided--one in the living room area and one in the master bedroom.

DEVELOPMENT STANDARDS AND SPECIFICATIONS CERTIFICATION

We certify that we have reviewed and considered the above CalHFA requirements and agree to incorporate them as part of this project's contract documents and scope of work. This document takes precedence over other construction documents in the event of discrepancies or unless otherwise resolved to the satisfaction of the lender(s).

* Approved, Agreed, and Accepted:

Owner

Firm

By

Title

Signature

Date

Architect

Firm

By

Title

Signature

Date

** Contractor

Firm

By

Title

Signature

Date

** Construction Lender

Bank

By

Title

Signature

Date

* This signature page shall be executed with original wet signatures and returned to CalHFA Architectural Services before Board action for Final Commitment. Additionally, this document shall be incorporated into the Contract Specifications.

** Signatures required if designated parties are known at this time. Otherwise, executed signatures will be required later before construction start.

ATTACHMENT I

MINIMUM CABINET SPECIFICATIONS

MATERIALS

Sides	Exposed Sides - 5/8" hardwood plywood with birch, oak or ash veneer (face); or high or low pressure laminate on 5/8" MDF; edgebanded. Exposed cabinet bottoms 48" or higher A.F.F. shall be finished to match.
Bottom Shelf	5/8" MDF or plywood, edgebanded.
Intermediate Shelves	Edge faced 5/8" plywood or 5/8" MDF for fixed shelving up to 36" span. Adjustable shelving shall conform to WIC Cabinet Standards for span.
Backs	Exposed - same material as exposed sides. Concealed - 1/8" masonite, hardboard or hardwood plywood on upper cabinets; painted or finished to match cabinet interiors.
Face Frames	3/4" hardwood to match plywood veneer (birch, oak, ash or alder) or high or low pressure laminate on 3/4" MDF with edgebanding on all sides.
Nailer	3/4" x 2 3/4" solid pine or other acceptable wood.
Door Fronts	3/4" hardwood plywood with birch, oak, or ash veneer (face); or high or low pressure laminate on 3/4" MDF, with balance backing sheet and edgebanded (5/8" material acceptable on elderly projects).
Drawer Front	3/4" hardwood plywood with birch, oak or ash veneer (face); or high or low pressure laminate on 3/4" MDF; edgebanded (5/8" material acceptable on elderly projects).
Drawer Sides	7/16" hardwood, MDF or 1/2" plywood.
Drawer Backs	5/8" hardwood, fir, plywood or particle board.
Drawer Bottoms	1/8" hardboard for widths up to 18", 1/4" hardboard for widths over 18".
Breadboards	3/4" Solid hardwood-rabbeted. Tongue and groove bands at each end. Glue with Type II adhesive.
Toe Base	4" Toe of 5/8" material to match exposed faces. Standard mitered finish end. Edgeband exposed ends.
Hardware	Drawer guides shall be side mounted (on each side of drawer) metal side slides with nylon ball bearing rollers, 75 lb. capacity. K.V., Grant or approved product of similar quality may be used. Doors shall have self-closing hinges, 75lb. capacity.

FABRICATION

Intermediate Shelving	All fixed shelving shall be dadoed to sides and nailed in back.
Tops and Bottoms	Rabbeted or dadoed into sides and nailed in back.
Face Frames	Joints shall be doweled and glued, or screw assembled. Screw assembly is glued and clamped with hydraulic clamp, then screwed in from the back at a 45 angle. No corrugated staples shall be used.
Joints	Glued and nailed or screwed.
Drawer Bottoms	Dadoed into sides and glued.
Drawer Fronts	Dadoed and glued into sides with self- locking joint; rabbeted and glued with sides nailed by hand; or gun "T" nailed.
Doors	Pulls are to be through-bolted from backside. Catching devices shall be roller type or magnetic. Three hinges are required for doors over 48" high. Pulls required at accessible units.
Back Bands	Cabinets must be attached to solid wall backing with 3" #12 or #14 pan head screws.
Finish	<p>All visible unfinished exterior and interior surfaces shall receive a sealer, stain and finish coat. Painted finishes and Melamine interiors are acceptable. Provide two waterproof seal coats at false front base cabinet apron and doors at kitchen sinks and bathroom lavatories.</p> <p>Shelves located in areas subject to high moisture impaction and rapid deterioration, such as beneath kitchen sinks and bathroom lavatories, shall be protected with at least two coats of spar varnish or paint made for the purpose of moisture protection or the finish surface shall be an approved material such as melamine. All exposed edges are to be finished. Joints at such areas shall be sealed with a silicone-based caulk to ensure protection of the base material.</p> <p>On finished wood cabinets, a minimum of two (2) coats of finish shall be applied to all exposed exterior surfaces and edges where potential damage and deterioration from water impaction could occur, such as at the apron and doors of the kitchen sink base cabinet.</p>
Counter Tops	All counter tops shall conform to WIC Standard 16, 17A, 17B, 17C, or 17D.
Cutouts	All sink and lavatory cutouts in counter tops shall have waterproof sealer applied to exposed edges.
Back Splashes	All counters shall have 4" high back splashes.

WIC Economy Grade Cabinets are also acceptable with the following modifications:

MATERIALS

Face Frames	All sides must be edgebanded to match exposed finish.
Backs	1/8" hardboard or masonite painted or finished to match cabinet interior on upper cabinets.
Toe Base	Finished to match exposed surface.
Drawer Glides	Side mounted 75lb. capacity.
Breadboards	3/4" Solid hardwood - rabbeted.

ATTACHMENT II

MINIMUM DIMENSIONS/FURNISHABILITY GUIDE For Apartment Unit Plan Layouts

The long-term marketability of apartment units is affected not only by their sizes but also by the livability of the units. One important functional component of livability is the ability of the space to accommodate the potential number of occupants and the basic pieces of common furniture necessary for daily activities. A larger unit does not guarantee the successful accommodation of a particular furniture layout over a more efficiently laid out smaller one. ¹*Nor should the architect and the developer assume that meeting the minimum dimensions will automatically result in acceptable unit designs. Different market conditions and unit configurations may require sizes above the minimums stated here. For instance, 12' and wider is commonly accepted as the minimum desirable width for a living room, in most markets.* The creative challenge to the project architect is to ¹*accommodate* the required furniture within a reasonably sized ¹*and market competitive* floor plan. The architect will be requested to furnish 1/4" scale typical unit plans demonstrating the following space and furniture requirements. Once reviewed and approved by the Agency the furniture plans should also be used in the preparation of electrical plans to assure coordinated locations for electrical service, such as telephone jacks, television and electrical outlets.

LIVING and DINING ROOMS:

Inside Clear Dimensions (unless otherwise demonstrated by graphic furniture representation)

Living Room: (minimum widths)

Elderly Units		Family Units	
1 bedroom	11'- 0"	1 bedroom	11'- 6"
2 bedrooms	11'- 6"	2, 3, and 4 bedrooms	12'- 0"
		5 bedrooms or larger	12'- 6"

Dining Room: (minimum widths)

Elderly or Family	
1 bedroom	8'- 0"
2 bedrooms	8'- 6"
3 bedrooms	9'- 0"
4 bedrooms	9'- 6"
5 bedrooms and up	10'- 0"

KITCHENS:

Galley Type: Must possess two cabinets/countertops, 8'- 0" minimum length with 4'- 0" minimum clear space between the face of base cabinets for 1 and 2 bedroom units. In 3 bedroom units and larger cabinet/countertop length should adequately reflect the increased unit size.

U-Shaped: 5'- 0" minimum clear space between the face of base cabinets. These minimum clear space widths are also contained in Title 24 California Building Code for accessible units.

Counters & Cabinets: The amount of counter and cabinet space should be reflective of the unit sizes, i.e., 4 bedroom kitchens shall have larger counter and cabinet space than a 1 bedroom unit, unless the 1 bedroom kitchen is oversized to begin with.

Pantry/³Broom Closet: Although a minimum 18" wide pantry is recommended in all units, they are required in family apartment units of 3 bedrooms or larger.

BATHROOMS (minimum requirements unless accepted otherwise by CalHFA):

At least 1 full bathroom shall be accessible from each bedroom without having to walk through common or public spaces of the apartment unit, such as the living or dining rooms.

Single Story Units:

1-2 Bedrooms	1 bathroom
3 Bedrooms	1 3/4 bathrooms
4-5 Bedrooms	2 full bathrooms

Townhouses:

Townhouses where all bedrooms are on a floor ²*other than the floor containing the kitchen, dining and living rooms*, provide a 1/2 bath/powder room on this floor, the common area floor. Provide the following minimum on the bedroom floors.

3 Bedrooms	1 3/4 bathrooms
------------	-----------------

4 Bedrooms	2 full bathrooms (If there is 1 bedroom and only one full bathroom downstairs, the bathroom should be accessible without going through the bedroom; the bathroom upstairs serving the remaining 3 bedrooms shall be a compartmentalized, multiple ³ <i>fixtures</i> bathroom, ³ <i>allowing for use by more than one occupant at the same time.</i>)
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CLOSETS:

Bedrooms: Based upon review of competitive market units, the minimum amount of linear footage/hanging space in bedrooms should be as follows:

6'- 0" minimum, 8'- 0" recommended, in the master bedroom
5'- 0" in all secondary bedrooms

Coat Closet: 1-2 bedrooms minimum 2'- 0" linear feet
3-4 bedrooms minimum 3'- 0" linear feet

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01/99:²02/98:¹09/97rev.

Common Linen Closet: Required in all multi-bedroom units, either in the hallway or bathroom. Linen shelving may be provided within the bedroom closet in 1 bedroom units.

FURNISHINGS:

As a general rule of thumb, furniture in both living and dining rooms should be able to accommodate the potential number of tenants (two times the number of bedrooms) that can be expected to occupy the apartment unit. This should be graphically illustrated on the 1/4" unit plans.

The following chart indicates the amount and sizes of furniture dependent upon the number of bedrooms in the unit. For the furnishings in the bedrooms, the reference chart should be used according to the number of bedrooms in the unit. Furniture providing equivalent seating accommodation will be considered (i.e., 2 couches in lieu of extra side chairs).

Furniture	Unit Size			
Living Room:	1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms
Sofa (3' x 7')	1	1	1	1
Side Chairs (2'6" x 3')	2	2	3	4
Coffee Table (1'6" x 3'6")	1	1	1	1
End Table (1'6" x 1'6")	2	2	2	3
Television	1	1	1	1
Dining Room:	1 bedroom	2 bedrooms	3 bedrooms	4 bedrooms
Table	2'6" x 5'	3' x 5'	3' x 5'	3' x 7'
Chairs (1'6" x 1'6")	4	4	6	8
Bedrooms:	Master	Second	Third	Fourth
Queen Bed (5' x 6'8")	1	0	0	0
Twin Bed (3'3" x 6'3")	0	2 ³ (1)	1	2
Dresser (1'6" x 3'6")	1	1	1	1
Night Stands (1'6" x 1'6")	2	2	1	2
Desk (1'8" x 3'6")	0	0	1	0
Chair (1'6" x 1'6")	0	0	1	0

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³01/99:²02/98:¹09/97rev.

³*For elderly units, a double bed in the second bedroom may be used in lieu of two twin beds.*

Note: CalHFA will evaluate the furnishability of the units based upon clearances as recommended in Architectural Graphic Standards.

10/98 format rev.

³01/99:²02/98:¹09/97rev.

III. ACCESSIBILITY STANDARDS

In addition to standard architectural requirements, the project must meet accessibility standards established by the federal and state governments and CalHFA.

FEDERAL AND STATE ACCESSIBILITY LAWS

All multifamily projects are to be designed to be accessible and are subject to the Federal Fair Housing Amendments Act of 1988 (FHAA) and the California Building, Plumbing and Electrical Codes (Title 24, California Code of Regulations). Considerable efforts have been made to combine the two sets of state and federal requirements; however, where there are differences, the more stringent shall apply and/or where applicable, both requirements must be met. Title 24 requirements will also vary, depending upon whether the projects are publicly funded or privately funded.

The Office of the State Architect (OSA) shall promulgate the building standards for publicly funded projects and the Department of Housing and Community Development (HCD) will promulgate standards for privately funded developments. Common and public facilities of multifamily projects must also meet the requirements of the Americans with Disabilities Act (ADA).

In addition to the above regulations, projects receiving federal assistance or participating in a federal program or activity will be subject to the requirements of Section 504 of the Rehabilitation Act of 1973 and the Architectural Barriers Act of 1968 (ABA). Department of Housing and Urban Development's public housing and Community Development Block Grant (CDBG) programs will be subject to ABA. Any projects covered by Section 504 or ABA will be required to follow the Uniform Federal Accessibility Standards (UFAS) to ensure accessibility.

The developer and the project architect should be aware that meeting the accessibility requirements of one of these laws does not automatically ensure compliance with the full scope of each law.

CalHFA ACCESSIBILITY STANDARDS

CalHFA is required by statute to have a percentage of the units it finances be designed and constructed specifically for occupancy and accessibility by the physically challenged. The primary difference between CalHFA's mandate and policy, and other state and federal accessibility regulations is that CalHFA's units are to be "built-out" during construction, compared to the future adaptability provisions of the federal and State Title 24 regulations. No less than the following percentages of units for the physically challenged must be provided in each development:

Built-Out Modifications	Type of Development	
	Family	Elderly
Bath only	2%	2 1/2%
Kitchen and Bath	1%	2 1/2%
Total/Each Project	3%	5%

The number of unit bedroom types for built-out adapted units (i.e. one bedroom, two bedrooms, three bedrooms, etc.) shall generally be divided proportionately according to the overall unit mix within the project, with at least one of each unit type whenever possible.

CalHFA intends to achieve two primary objectives with its program specific accessibility standards:

- Enhance the usability of a minimum number of dwelling units when they are occupied by the physically challenged, particularly in the kitchens and bathrooms where the adapted need is the greatest, and
- Maintain the usability and marketability of the units when they are rented to the ambulatory tenants.

A. Kitchens:

Counters and Cabinets:

- The design of the kitchens shall be based on a U-shaped counter and base cabinet arrangement. This layout enables a wheelchair confined tenant the ability to move food and other kitchenware in a counter to counter to counter progression with minimal wheelchair maneuvering. The common parallel or gallery kitchen counter layout would require picking up kitchenware and swiveling 180 degrees to use the opposing counter.
- A minimum 18 inches of counter shall be located adjacent to all kitchen appliances. The kitchen sink and range shall have adjacent counter space on each side.
- The need for accessible kitchen storage and shelving makes base cabinets especially important in the adapted units because of the limited reach of the physically challenged. The amount of base cabinets, with the cabinets removed at the required adjustable counters (Title 24), shall be at minimum, equal to the amount of base cabinets in the typical non-adapted units. Corner base cabinet space, which is inaccessible, shall not be counted in total. All cabinet doors shall have touch latch hardware or U-shaped pulls.
- The bottom shelf of kitchen wall cabinets shall be no higher than 48" AFF.

FIGURE 1

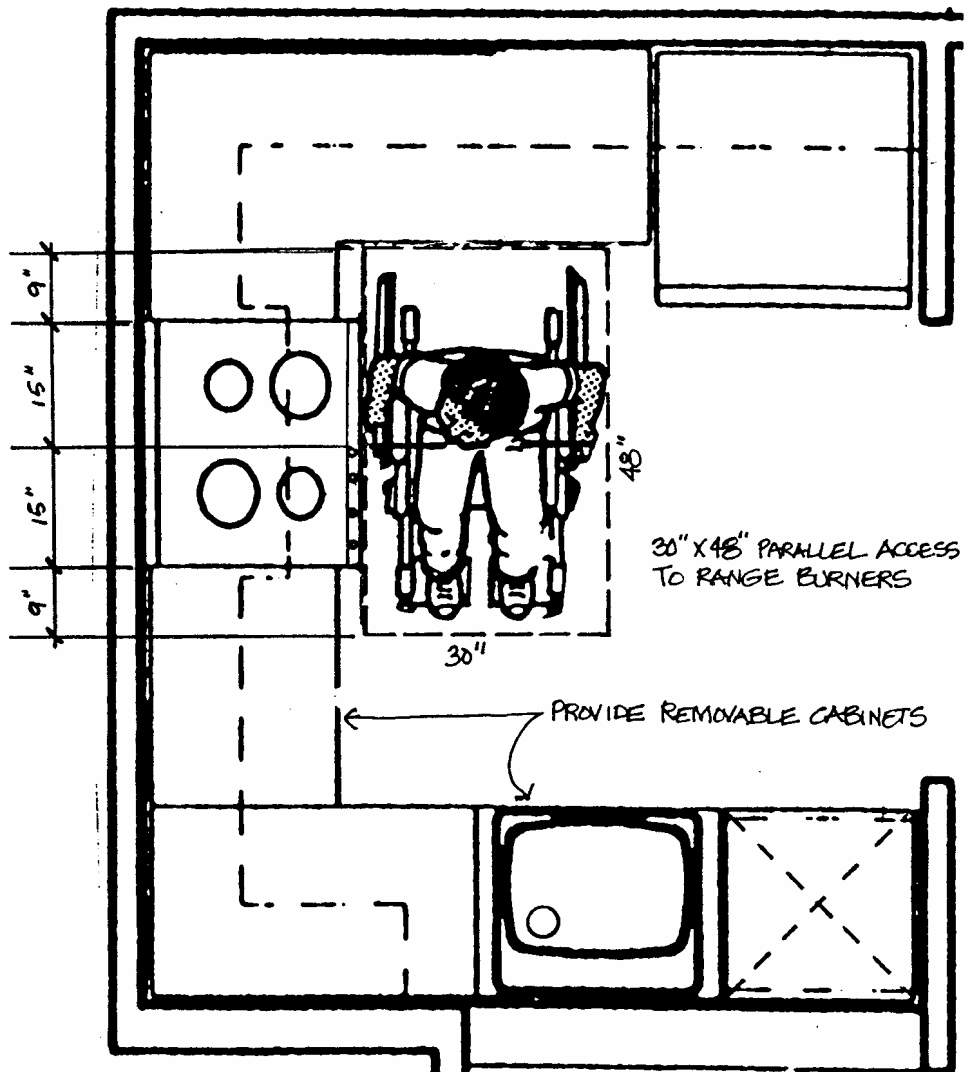


Illustration of Built-Out Handicap Kitchen
Conforming to CalHFA Accessibility Requirements
Typical 2-Bedroom Unit
Scale: $\frac{1}{2}" = 1'-0"$

FIGURE 2

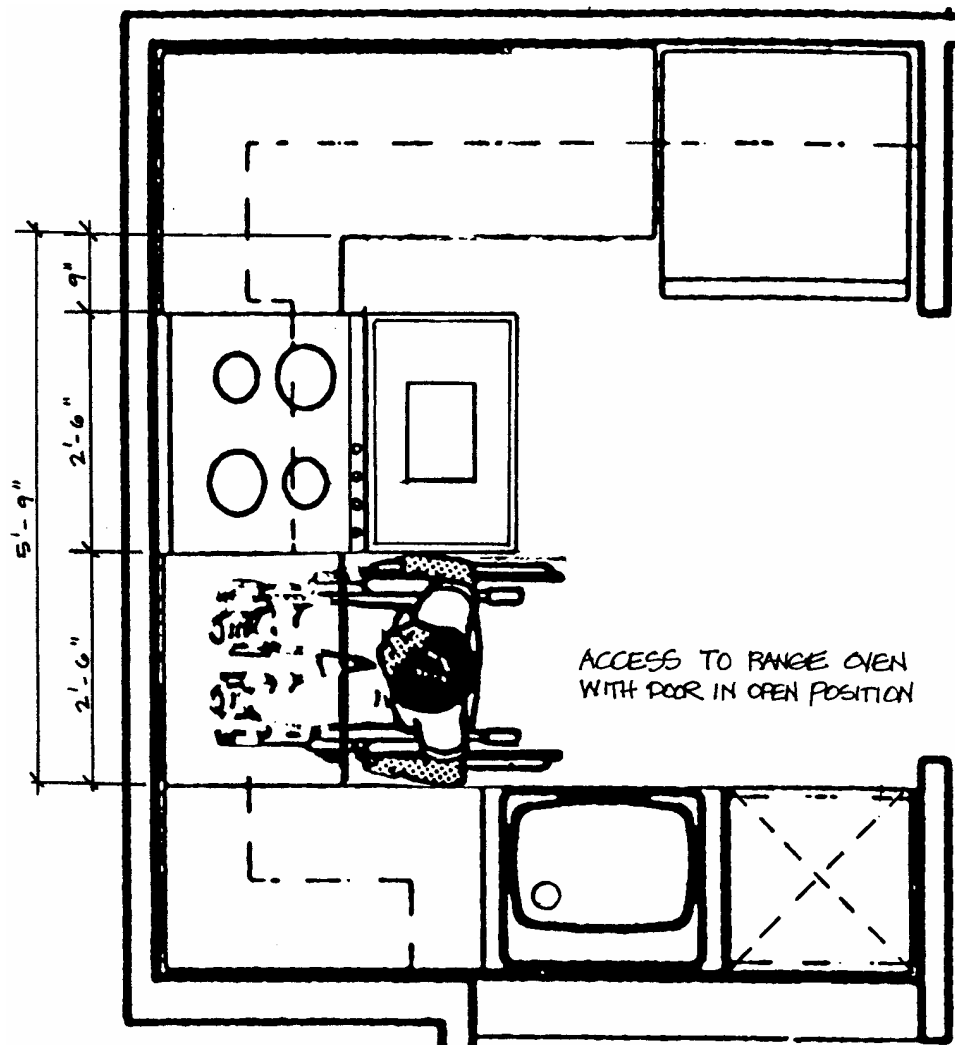


Illustration of Built-Out Handicap Kitchen
Conforming to CalHFA Accessibility Requirements
Typical 2-Bedroom Unit
Scale: $\frac{1}{2}" = 1'-0"$

FIGURE 3

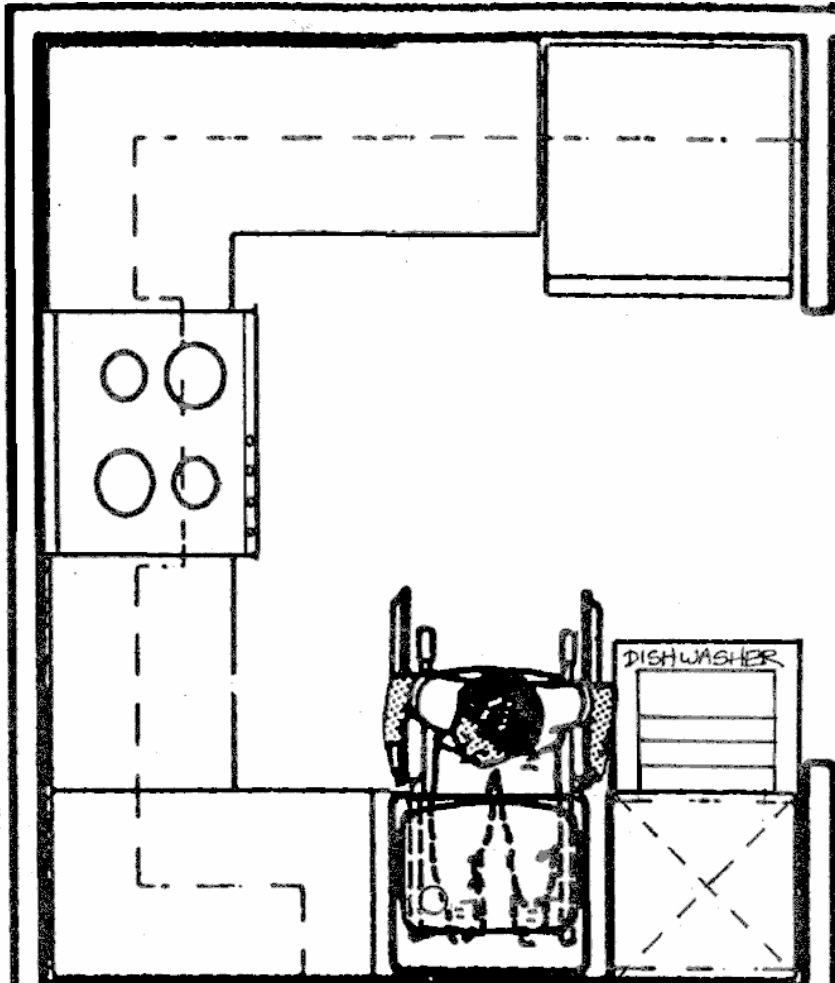


Illustration of Built-Out Handicap Kitchen
Conforming to CalHFA Accessibility Requirements
Typical 2-Bedroom Unit
Scale: $\frac{1}{2}" = 1'-0"$

Equipment and Fixtures:

- *Range* shall have front mounted controls, and a self-cleaning oven with glass panel door. A 30" wide removable base cabinet shall be located on the left side of the range to provide the necessary knee space that makes it easier and safer for a physically challenged tenant to remove hot items from the oven with the oven door in a down and open position.
- *Cooktop* (optional) with staggered/offset burners and front controls may be used as an alternative to a slide-in range, allowing the requirement for adjacent removable cabinet and knee space to be eliminated. However, a separate wall oven would be required.
- *Wall oven* (optional) shall be self-cleaning with a glass panel door. The oven controls must be no higher than 54" with a preferred range of 48"-52". The oven door, in its open position, must clear the arms of a wheelchair (29.5"AFF). A wall oven is only required if a cooktop is used in lieu of a range.
- *Range hood* controls must be located within reach for the physically challenged. Normally, a separate and accessible remote switch would be used.
- *Sink* shall have a maximum depth of 6 1/2" and have a rear corner drain to keep pipes and the garbage disposal out of the knee space clearances. Single or double bowl sinks may be used. Faucets shall have blade or lever type handle. A separate spray hose shall be provided.
- *Garbage Disposal* shall have the control switch conveniently and safely located to be accessible.
- *Refrigerator* shall be a side-by-side, double door frost-free model. Alternative models are acceptable if it can be demonstrated that the freezer compartment is accessible.

B. Bathrooms:

- Grab bar backing reinforcement is required at all bathrooms per applicable codes. Only one bathroom in an adapted dwelling unit needs to meet the following requirements:
 1. Grab bars are to be installed, sized and located to meet applicable federal and state regulations.
 2. Bathtub bottom shall have a non-slip surface.
 3. Handheld showerhead with a 60" flexible hose shall be attached to a vertical bar and adjustable from 42" to 72" AFF. A conventional fixed showerhead and a tub spout with diverter shall also be provided.

4. Tub control shall be a single lever, pressure balance, anti-scald, temperature limiting, mixing valve.
5. Medicine cabinet shall be recessed, located on a side wall adjacent to the lavatory, aligned with front edge of vanity cabinet, and have its lowest shelf at a maximum of 44" AFF.
6. Lavatory vanities shall be provided as in typical units. Where parallel side approach is not possible per codes, a removable cabinet must be provided that allows 30" minimum clear width and 29" clear height under an independently supported lavatory.

C. Common Area Accessibility

All community or common areas and facilities of the site shall be accessible to the physically challenged. Parking stalls for the physically challenged shall be conveniently located so that passage behind other parked cars is not required to reach a pedestrian way.

D. Other Required Features:

- Provide a second peep hole/door viewer at apartment unit front entry door at a height of 46" AFF.
- Provide closet shelf and pole adjustable from 44" to 72".
- Where washers and dryers are furnished in apartment units, the units specifically designed for the physically challenged shall have front loading washer/dryer units. See Part II, Page 14, Laundry Facilities, CalHFA MP APR, for additional requirements.

IV. ARCHITECTURAL LOAN SUBMISSION PACKAGE

Listed below are the required documents that constitute the Architectural Loan Submission Package ("Package"). A Package, completed as described, must be submitted to the Multifamily Architectural Services department located in Culver City and must include the information listed under each document heading. The Package will be due approximately 4 weeks before a project is scheduled for final loan commitment. An incomplete submission will delay the commitment.

COVER SHEET

- Project name, address and CalHFA project number
- Total land area as indicated on ALTA/ACSM Land Title Survey
- Existing and required zoning
- Names, addresses and telephone numbers of project architect, developer, and all consultants with professional license numbers
- Schedule of apartment unit types is to be listed by:
 1. *Number of bedrooms and bathrooms* with unit square feet, units designations, by floor and by building
 2. *Apartment/Building type: garden walk-up, townhouse, semi-detached, high-rise, etc. Subtotal units by type and total number of units of all types. Label units and buildings to match architectural plan designations.*
- Number of parking spaces provided; number of spaces required by zoning per dwelling unit; and number of open and covered spaces. Covered parking should be designated as carports, individual garages, subterranean garages, etc. Indicate the number of guest parking spaces required by zoning. Indicate the number of accessible stalls.
- Building Information:
 1. *Gross building area (List separately parking facilities, including subterranean structures, and any detached facilities, structures, or buildings.)*
 2. *Total residential square feet in development (sum total of all apartment units)*
 3. *Number of buildings by building type*
 4. *Number of elevators*
 5. *Recreational/community building area square feet*

6. *Maintenance/workshop* square feet
 7. Project *storage area* square feet
 8. Project *manager's office(s)* square feet
 9. *Number of floors and height* in feet of buildings. Also indicate height allowed by zoning.
 10. *Source of energy* for heating, cooling, cooking, hot water, etc. (Indicate individual or master metering.)
- Total outdoors recreational space (outdoor areas specifically designed for active recreational use--indicate square feet and percent of total site).
 - Applicable local code and building classification as well as local zoning requirements
 - Demolition plan and requirements (if any)
 - California Energy Commission's climate zone for site on cover sheet of plans
 - Drawing index by name with sheets numbered consecutively
 - Drawing date; Revision dates, if any, on sheets

CURRENT SOILS/GEOTECHNICAL REPORT(S)
(SEE ALSO PART II, PAGE 5 and PART VI, PAGE 5)

- Site plan showing test boring locations
- Description and classification of materials encountered
- Nature, distribution, and strength of existing soils and proposed imported soils
- Data regarding ground water levels, soils characteristics affecting potentials for liquefaction, consolidation, amplification, and any other characteristics or potential problems
- Recommendation for treatment of all soils conditions/problems including provisions to minimize the effects of expansive soils and the effects of adjacent loads
- Recommendations for slab thickness and reinforcement, foundation type and design criteria, including bearing capacities
- Recommendations for parking lot and driveway section and base (include pavement design specifications for trash truck use)
- Expected total and differential settlement

- Professional opinion(s) and recommendations as to adequacy of the site for the proposed development.

ALTA/ACSM LAND TITLE SURVEY

The ALTA/ACSM Land Title Survey ("Survey") must be current, certified and dated by a registered surveyor or engineer. The Survey must be submitted during the schematic design phase, using the same scale as the Architectural Site Plan, (Scale 1"=20'-0" or 1/16"=1'-0") unless approved otherwise by CalHFA. The Survey should include:

- Accuracy requirements of a Class "A" Survey
- Location of utilities serving or existing on the property as evidenced by on-site observation or as determined by records provided by client, utility companies and other appropriate sources (with reference as to the source of information) for example:
 - a) railroad tracks and sidings;
 - b) manholes, catch basins, valve vaults or other surface indications of subterranean uses;
 - c) wires and cables (including their function) crossing the surveyed premises, all poles on or within ten feet of the surveyed premises, and the dimensions of all crosswires or overhangs affecting the surveyed premises;
 - d) utility company installations on the surveyed premises.
- Any changes in street right of way lines either completed or proposed, and available from the controlling jurisdiction. Observable evidence of recent street or sidewalk construction or repairs
- Existing utilities and sizes, including storm drains, and all easements, rights-of-way, setback lines, and other restrictions
- Existing structures, trees and description, and other substantial visible improvements
- Existing surrounding structures within 25' (buildings, walls, fences, etc. and heights)
- Existing off-site improvements such as sidewalks, curbs, gutters, street lights, fire hydrants, etc.
- Land area in acreage and total square feet
- All proposed easements
- All encroachments
- Flood Zone/Plain Designation

- Vicinity map showing the property surveyed in reference to nearby highway(s) or major street intersection(s)

SITE TOPOGRAPHIC MAP

Provide Site Topographic Map ("Topo") during schematic design phase. Topo may be combined with the ALTA/ACSM Land Title Survey and it must be the same scale as the site plan and survey (Scale 1" = 20'-0" or 1/16" = 1'-0").

The Topo must include:

- Existing contours at 2'-0" intervals for sites with slopes of 5% or greater. Spot elevations may be used for flat sites.
- On site and adjacent, natural and man-made, drainage swales with flow direction arrows
- Contours extending 10' beyond property line

ARCHITECTURAL SITE PLAN

The Architectural Site Plan ("Site Plan") shall be the same scale as the Survey and the Topo (Scale 1" = 20'-0" or 1/16" = 1'-0"). The Site Plan should be submitted on sheets of paper no larger than 30" x 42". Please consult with the Multifamily Architectural Services department if the size of the site precludes use of sheets 30" x 42" or smaller. The Site Plan shall show:

- Contours at 2'-0" intervals if site topography is 5% or greater
- Relative elevations of finished ground floors
- Walks and other flat work
- Walls, fences and type especially retaining walls, including heights
- Relationships between buildings
- Existing and proposed roads and streets
- Site boundaries, dimensions, and North arrow
- Street utilities and proposed service connections
- Fire department site access
- Recreation areas - outdoor (active and passive), including landscape design treatment (where applicable)

CONCEPTUAL LANDSCAPE PLAN

Preliminary Landscape Plans by landscape architect must indicate general design concept with plant materials, sizes and quantities. Final Landscape Plans are to be executed by a landscape architect with schedules indicating:

- Quantity by sizes or spacing:
 1. Trees: boxes, gallons
 2. Shrubs and ground cover: gallons and o.c. spacing
- Type of plant species, lawn ground cover, etc. required during construction documents phase
- Additional characteristics such as height, caliper, spread, multi-trunk, etc. for trees (scale to be same as Architectural Site Plan and Survey)
- Common and botanical names

TYPICAL UNIT FLOOR PLANS

- Scale of 1/4" = 1'-0". Fully dimension all plans (on all 4 orientations)
- Indicate room sizes on plans (i.e. living room/dining room 13' x 18')
- Furniture layout: indicate the ability to accommodate the pieces of furniture with required clearances, as listed in the Furnishability Guide, Attachment II.
- Kitchen and bathroom elevations (for all 4 orientations)
- HVAC equipment and system (locations of equipment and furred spaces)
- Location of electrical panel
- Unit type designation and total net square feet. Indicate total number of each unit type.

BUILDING FLOOR PLANS

- Show each and all floors unless identical.
- Scale: 1/8" = 1'-0" fully dimensioned
- Individual unit type designations
- Individual unit layouts
- Public areas with dimensions
- Handicap facilities (i.e., areas of refuge, ramps, etc.)

ROOF PLANS

- Scale: 1/8" = 1'-0"
- Indicate slope/pitch of roof and overhang.
- Indicate roof mounted equipment locations.
- Indicate roof drains, downspouts, gutters, and diverters.
- Indicate direction of slope with arrows.
- Indicate type of roofing material.

TYPICAL CROSS SECTION(S) OF BUILDING

- Scale: 1/4" = 1'-0" or larger
- Type of footings or foundation
- Relation to finish grade
- Type of roof framing, sections of typical walls
- Ceiling heights (at apartment units, building corridors, and community/recreational areas), insulation, floor and wall surfaces, floor to floor dimensions

TYPICAL WALL AND FLOOR ASSEMBLIES

Wall sections should include, but are not limited to: party walls, corridor walls and exterior walls. Use 1 1/2" = 1'-0" minimum scale. Include full dimension section(s), indicating materials and thickness. Specify minimum STC rating.

BUILDING ELEVATIONS

- Scale 1/8" = 1'-0" minimum
- Show all four orientations for all buildings.
- Indicate type of exterior treatment, materials.
- Show balconies, patios, etc.
- Indicate floor to floor dimensions.
- Fully render at least one front building elevation to indicate character.
- Provide three dimensional character sketch(es) and/or study model(s), if available.

FINISH, DOOR, AND WINDOW SCHEDULES

- Coordinate unit plan designations and schedules.

STRUCTURAL ANALYSIS

- For conventional 2 and 3 story wood frame, Type V construction, no structural analysis or plans are required at this time unless specifically requested by Agency.
- For foundation type, the recommendations of the consulting engineer in the project soils/geotechnical report are to be included in the project's structural design.
- For mid and high-rise buildings, indicate structural system locating columns, load-bearing walls, etc.
- For projects located in higher risk seismic zones (most of California), the Agency's seismic consultant will evaluate risks and estimate potential damages from seismic activity. Depending upon the estimated damage risk numbers, structural recommendations may be made which will be required to be incorporated into the final structural design and scope of work. The consultant's fees for the seismic review of architectural and structural design drawings, if required by CalHFA when the Agency's acceptable damage thresholds are exceeded, are to be paid by the developer.

MECHANICAL (PLUMBING AND HVAC)

- Show on floor plans area location and space requirements for equipment, air ducts and any other pieces of equipment.
- Indicate furred ceilings on 1/4" unit floor plans and 1/4" community building plans. Care should be taken in working out furred ceiling depths, equipment rooms, and shafts with adequate clearances provided. Furred spaces for duct work shall not be located in habitable rooms without CalHFA review and approval.
- Identify specific items of material and equipment contained in specifications for mechanical work.

OUTLINE SPECIFICATIONS

Use HUD Outline Specification Form 5087 to list in detail all construction standards, hardware, appliances, plumbing fixtures, and all special accessibility features. Attach supplementary sheets if necessary.

CONSTRUCTION COST ESTIMATE

The cost estimate should include sufficient backup documentation to allow CalHFA to analyze the various cost components by trades.

OFF-SITE IMPROVEMENTS

List improvements, costs and to be paid by whom. Also, provide drawing(s) indicating extent of off-site improvements. See Part II, Page 5, Development Standards and Specifications, CalHFA MP APR, for additional requirements.

FIRE/SAFETY FEATURES

Identify all special fire/safety features, including items such as sprinkler systems, emergency generators, emergency intercom, etc.

PRELIMINARY GRADING PLAN

The Preliminary Grading Plan shall show:

- Existing grades
- Proposed elevations, both finish pads and finish floors
- Proposed adjacent grades at all building corners and at front door landing
- Proposed site drainage: swales, gutters, catch basins, etc. with flow direction arrows

See Part II, Page 6, Development Standards and Specifications, CalHFA MP APR, for additional requirements.

ACOUSTICAL REPORT

For noise impacted sites, as determined by CalHFA, an acoustical report, prepared in accordance with HUD's Noise Guidelines, will be required as part of the Architectural Loan Submission Package. All recommended noise mitigation measures, including mechanical ventilation, are considered part of the required scope of work and should be included in the construction costs.

WILL-SERVE LETTERS

Provide letters from all utility companies confirming adequate existing utility capacity to service the proposed development.

OTHER INFORMATION

CalHFA may request additional information on a project-by-project basis, depending on location and other characteristics of proposed development, site and surrounding area.

ARCHITECTURAL LOAN SUBMISSION REQUIREMENTS

The intent of this submission is to establish and develop a feasible design by scaled drawings so that all the major design problems are resolved and ready to enter the final construction documents phase. This phase should not be treated as a casual progress print submission without overall design coordination with the engineering consultants. The architect and developer should keep in mind that this phase establishes the scope, budget, feasibility and marketability of the entire development, and all drawings and specifications shall fulfill the requirements and standards of CalHFA's Multifamily Lending Program as outlined in the Agency's Multifamily Lending Manual.

The undersigned acknowledge that they have reviewed the Architectural Loan Submission Package Requirements which will serve as the basis for a CalHFA approved preliminary architectural package necessary for loan commitment. It is further understood that preliminary packages submitted to CalHFA without all of the requested information will be considered incomplete and could hinder and/or stop the project's progress for loan commitment.

Project Name _____ CalHFA Project No. _____

Project Architect _____ Date _____

Borrower/Developer _____ Date _____

This page, with the original wet signatures, is to be returned to the Agency's Architectural Services Department at the time the Architectural Loan Submission Package is delivered or before.

V. CONSTRUCTION CONTRACT DOCUMENTS

General Note: The ALTA/ACSM Land Title Survey, Grading Plan, Architectural Site Plan, Mechanical/Plumbing Site Plan, Electrical Site Plan and Landscape Site Plans are all to be at the same scale of 1" = 20' or 1/16" = 1'-0". All apartment unit plans are to be 1/4" = 1'-0"; all building plans, building elevations and roof plans are to be 1/8" = 1'-0". The following list of documents is required:

DRAWINGS

TITLE/COVER SHEET

(Provide Cover Sheet information as identified in Part IV, Page 1, Architectural Loan Submission Package)

ALTA/ACSM LAND TITLE SURVEY

Include current survey (1"=20' or 1/16" = 1'-0") as part of the final construction document set.

CIVIL

- Grading Plan (1" = 20' or 1/16" = 1'-0") - Executed by civil engineer
- Drainage & Site Details
- Off-site Plans

ARCHITECTURAL

- Site Plan (1" = 20' or 1/16" = 1'-0")
- Building Plans (1/8" = 1'-0")
- Roof Plans (1/8" = 1'-0")
- Typical Unit Plans (1/4" = 1'-0")
- Community Building Plans (1/4" = 1'-0")
- Exterior Building Elevations (1/8" = 1'-0")
- Interior Elevations (1/8" = 1'-0")
- Building Sections/Details
- Finish, Door & Window Schedules

STRUCTURAL

- Foundation Plans/Details
- Framing Plans/Details
- Structural Calculations

DESIGN/BUILD PLANS AND SPECIFICATIONS

Consultant plans are to include the minimum information outlined in this section and plans are to be executed, signed and stamped by licensed project engineers and a landscape architect. Consultant drawings are expected as part of the Construction Contract Documents to be reviewed and approved by the Agency before a construction start and loan closing. The project architect shall be responsible for proper coordination of the consultant drawings with the architectural drawings. Design/build services and/or contracts not satisfying the above requirements are not acceptable. EXCEPTION: The Agency will consider Design/Build contracts for projects under 16 units with simple mechanical systems if the design/build subcontractor has a consultant engineer or an appropriately licensed engineer on his staff approve, sign and stamp the design plans with his license registration stamp.

MECHANICAL

- HVAC - Include pertinent design data, including energy calculations and design temperatures.
- Indicate all necessary heaters, boilers, pumps, motors, compressors, fans, pipes, ducts, equipment, and construction.
- Locate and size boilers, furnaces, or heaters with manufacturer, model number and net output of each.
- Locate and size compressors, cooling towers, and individual cooling units with manufacturer, model number, cooling capacity, and horsepower of compressor.
- Locate all domestic water heating and related equipment with manufacturer, model number, type, and storage capacity. Include additional heat load in total for the design of each domestic hot water system when connected to a heating system.
- Provide typical Unit and Community Building Plans (1/4" = 1'-0") layouts of equipment and distribution. Indicate duct, grille, and pipe sizes with location of valves, vents, dampers, and controls. Show CFM space requirements, blower ratings, and BTU load requirements for each individual space.
- Provide equipment schedule.

PLUMBING

- Site Plumbing Plan (1" = 20' or 1/16" = 1'-0")
- Typical Unit and Community Building Plans (1/4" = 1'-0") waste and supply. Horizontal sewer and drain system together with soil, waste and vent stacks, branch waste and vents, cleanouts, traps, connection to sewer, sizes of all lines and stack. Diagram of typical stack.

- Cold and hot water distribution system, size of mains and branches, location of hose bibs, valves, drains, circulating lines and pumps, etc.
- Gas distribution system, size of mains and branches, meters, etc.
- Fixture schedule

ELECTRICAL

- Typical Unit Plans (1/4" = 1'-0") Show interior power distribution and wiring; lights, receptacles, switches, special purpose outlets, door bells, telephone jacks, television outlets and connections for all equipment.
- Site Plan (1" = 20' or 1/16" = 1'-0"): Power and lighting
- Community and Common Building areas (1/4" = 1'-0"). Provide same information as for Typical Unit Plans.
- Building Plans (1/8" = 1'-0")
- Fixture schedule
- Meter and panel locations

LANDSCAPE PLANS

- Planting Plan (to be the same scale as the architectural site plan)
- Irrigation Plan
- Planting Schedule with botanical and common names, quantity, sizes, quality, and other pertinent descriptions.
- Details
- Warranties and Maintenance Periods

See Part II, Page 4, Development Standards and Specifications, CalHFA MP APR, for additional requirements.

SPECIFICATIONS

1. BOOK SPECIFICATIONS

Book specifications, based upon the Construction Specification Institute's (CSI) 16 basic divisions, are required and shall be consistent with the Outline Specifications submitted and approved for Final Commitment. The specifications shall describe all materials,

equipment, warranties, and construction; and shall include two, preferably three, comparable products where practicable. Additionally, the specifications shall include:

- Cover sheet with project name, CalHFA project number, and project address. Provide signature listing for Architect, Owner, and Contractor. List all consultants, professional license numbers, addresses, and telephone numbers.
- "General Conditions of the Contract for Construction", AIA A201, latest edition - unaltered.
- CalHFA Architectural Processing Requirements, Part II, III, VI and VII with executed signature sheets (wet signatures required).
- Other Supplementary Conditions

2. PRODUCT NAMES

Specifications should list two product source names, (preferably three) of comparable cost, quality and performance, including manufacturers' model numbers and performance data where practicable. All "or equal" or "similar to" wording are to be omitted. Alternates may be listed. Any substitutions must be approved by the architect and the lenders.

3. ALTERNATE MATERIALS

All alternate materials and product items shall be specifically reviewed for the project by the architect prior to commencement of construction and/or installation. Do not substitute materials, equipment or methods unless such substitution has been specifically reviewed and approved by the architect in writing for this change. The lenders shall be informed of such substitution by the architect.

4. (a) SPECIFICATIONS FOR PROJECTS UNDER 25 UNITS

For projects 25 units and under; and on other larger developments determined on a project-by-project basis, the Agency will allow the following alternate method of submitting the Contract Specifications (in lieu of Book Specifications):

- AIA A201 General Conditions
- Outline Specifications (HUD Form 5087)
- Description of Materials (HUD Form 92005)
- Catalog Cuts of products and equipment with manufacturers and model numbers cross-referenced on plans. Warranties must be identified.
- Specifications on plans as necessary.

- CalHFA Special Conditions
- CalHFA Required Supervisory Architect Addenda for Developer/Prime Contractor.
- Project Soils Report or inclusion by reference on plans.
- CalHFA Development Standards and Specifications (Part II)

4. (b) MINIMUM SUBMITTALS REQUIRED IN CalHFA FORMAT UTILIZING ALTERNATE METHOD WITH OUTLINE SPECIFICATIONS AND DESCRIPTION OF MATERIALS FORMS

SIGN

CalHFA Project Construction Sign and Project Monument Sign. Alternate signage design will be considered on a project-by-project basis.

CABINETS

Information only. If manufacturer is unknown to Agency, base cabinet sample may be required.

HARDWARE

Major hardware specification cut sheet and literature will be required.

APPLIANCES

- | | |
|---|---|
| • Range – typical unit | • Refrigerator - typical and accessible units |
| • Range hood - typical and accessible units | • Dishwasher |
| • Wall oven - accessible unit | • Garbage disposal - all units |
| • Cooktop – accessible unit | • Community/Recreation center equipment |

TOILET ACCESSORIES

PLUMBING FIXTURES AND TRIM (including bathtub)

SPECIALTIES

- | | | | |
|---------------------|-------------|------------------------|--------------------------|
| • Trash chutes | • Elevators | • Playground equipment | • Sliding/security gates |
| • Trash receptacles | • Benches | • BBQ equipment | • Others |

HVAC EQUIPMENT

ELECTRICAL

- Bathroom heater
- Master antenna, when specified
- Light fixtures/equipment
- Pedestrian intercom/security entrance system
- Vehicular security gate entry system

CONSTRUCTION DOCUMENT SUBMISSION

Two (2) sets of plans and specifications (considered to be 90% complete) must be submitted to CalHFA, Architectural Services, 100 Corporate Pointe, Suite 250, Culver City, CA 90230 for the Agency's review.

Construction document submittal shall reflect project scope of work as accepted by CalHFA for Final Commitment and shall include all consultant drawings and specification sections. If alternate outline specification format is used, all catalog cut sheets must be submitted for 90% review.

Project processing is scheduled by CalHFA. To prevent backlog, your submittal, as described above, must be submitted by a date to be established by CalHFA. All submittals must be accompanied by a transmittal letter and/or form listing the documents delivered.

Comments on 90% drawings and specifications will be given back to the project architect for incorporation into a revised final Contract Documents.

The final Contract Document set shall then be resubmitted to CalHFA (with original CalHFA marked-up, 90% plans and specs) to serve as a closing check set. This Contract Document set (drawings, specs, etc.) shall have incorporated 90% of CalHFA comments to the Agency's satisfaction, building department requirements for permit, any late revisions to scope of work by owner, architect, contractor, etc. To expedite the Agency's re-review, the project should outline and indicate how and where each CalHFA review comment has been addressed. Once CalHFA has determined that the plans and specifications are acceptable, the architect shall secure a duplicate, local building department permit stamped set for the Agency as its Record Set; this is in addition to the building department stamped set normally kept at the construction site. This set shall be stamped and wet signed by all consultants. Upon receipt of the Record Set of Contract Documents, CalHFA has technically accepted the project for a construction start, assuming all other Agency requirements have been satisfied.

VI. SPECIAL CONDITIONS

A. GENERAL

DESCRIPTION OF WORK

A description of the work satisfactory to the lenders shall be provided in the specifications.

DRAWINGS AND SPECIFICATIONS

The drawings and specifications are considered equal in defining the scope of work. In describing the scope of work the most stringent directive shall apply (as determined by the architect and lenders) whenever a conflict or inconsistency occurs: between drawings and specifications, between individual drawings within a set of drawings and/or between drawings and notes.

REFERENCE STANDARDS & SPECIFICATIONS

Materials which are specified or referenced by title, symbol, or number of a commercial standard, Federal Specification, ASTM designation, ANSI designation, manufacturers' literature or other reference standards must adhere to the most current editions. Referenced documents shall be considered an integral part of the specifications and incorporated fully therein. Upon request the architect will furnish copies of the documents. The architect and the active lenders may require that certain copies of reference specifications be kept at the job site.

QUALITY ASSURANCE

- All materials and equipment shall be new, with current manufacturing dates and warranties, and of the best quality of their respective kinds. Labor shall be performed in a thorough and workmanlike manner with reasonable expediency.
- Materials and equipment shall be delivered to the project in the manufacturer's original, unopened, labeled containers and be adequately protected against moisture, tampering or damage from improper handling or storage. Installation is to be per manufacturer's recommendations.
- Any proposed substitution to the materials or equipment specified by manufacturer's name or trade name shall be equal or superior to the original in all respects. At the architect's option, detailed specifications, performance data or samples may be required to be submitted to substantiate the claims of equality. A change order will be required.
- The construction shall conform to the latest edition of the applicable building codes.

CHANGE ORDERS

All changes from plans and specifications effectuated through change orders are subject to approval by the construction lender and CalHFA prior to performance of work or installation of any materials. Significant changes must be submitted with enough lead time for review and approval so as not to cause any time delays.

Change Orders and Construction Change Directives shall be forwarded to CalHFA Architectural Services, in the Los Angeles Regional Office, for review within ten (10) days after execution by the appropriate parties.

The Agency will review and may dispute change orders or directives it believes are inconsistent with the construction scope of work as approved and accepted by CalHFA.

AS-BUILT DRAWINGS

During the progress of the work, the contractor shall keep an accurate record on a set of prints specifically designated for that purpose, of all deviations from the original plans and the locations of all mechanical, plumbing and electrical work as actually installed. Upon the completion of the work, the contractor shall transfer this information to a full size set of reproducibles obtained from the design architect. The "As-Built" drawings shall reflect all change orders. The furnishing of these record drawings to the lender(s) shall be a condition of the certification for final payment and for the closing of the CalHFA loan.

The sheet index is to accurately reflect the contents of the complete set of As-Built Drawings. Each and every sheet of the set of As-Built Drawings shall be stamped/labeled "As-Built" and shall be bounded/stapled into a single set of drawings. The supervising architect and the contractor shall wet sign and date the cover sheet of the set of As-Built plans, with the architect also stamping the sheet with his license registration seal. If the sheets of drawings are not permanently bounded into a single set, the architect and contractor shall sign each individual sheet. In addition, the Contractor's Certification of the As-Built Drawings and the Architect's Certification of the As-Built Drawings (certificate forms are located at the end of this narrative section as Attachment III) shall be completed and submitted with two sets of As-Built Drawings to the Senior Construction Inspector in the Los Angeles Regional Office.

B. SUBMITTALS

MATERIALS LISTS

Materials lists shall be submitted in duplicate, as requested by CalHFA, within 30 days after the start of construction. With the two copies of the list, the contractor shall submit two sets of brochures and technical data for each piece of equipment for approval. Brochures and technical data shall include catalog cuts, diagrams, and such other descriptive data as will give a complete description of the equipment, including trade name, model number, type, size, rating and auxiliary equipment to be included.

With regard to record copies of brochures for the architect's, contractor's, Agency's and owner's permanent files, refer to Project Closeout, Section E of this document.

Materials of foreign manufacture: Where imported materials are to be furnished, responsibility for their compliance with standards set up in the trade specifications shall rest with the installing contractor. Certification from foreign manufacturer or domestic supplier as to compliance shall not be considered evidence of compliance.

CERTIFICATES

Certificates shall certify compliance with published specifications of trade, industry or governmental organizations or specifications of the architect and shall attest to the contractor's compliance with such specifications.

Where these specifications set standards by referencing published specifications, submittal of certification may not be required; however, if inspection or performance at the job site, after delivery and until final acceptance, creates doubt regarding compliance with such specifications, the active lenders reserve the right to receive such certification or in the event compliance cannot be certified, demand removal of questionable work and its replacement with certifiable materials.

SUBSTITUTIONS

Where the specifications use a specific manufacturer's name in conjunction with materials, products or systems, they are cited as standards, but imply no right upon the part of the contractor to substitute other materials, products or systems without written approval of the architect and with concurrence of the lenders.

- Where the phrase "or approved equal" or "or equal as approved by the architect" occurs in the contract documents, do not assume that material, equipment, or methods not specified are equal unless the item has been specifically approved for this development by the architect with concurrence of the lenders.
- Request for substitutions shall be submitted to the architect as indicated below.
- No request submitted to the architect's consultants or to local building officials and authorities shall be considered valid.
- Requests for substitutions should be submitted within 35 days after the signing of the contract, and in no event less than two weeks prior to the date which the contractor sets for firm action by his/her forces (placing of an order, installation, etc., as the case may be). Such requests may be submitted in conjunction with material lists.
- All requests for substitution shall be in writing and shall indicate all information required thereon, including difference in size, difference in color, etc. The request for

substitution shall be accompanied by catalog cuts, product literature, performance data, specifications, drawing, samples, or other means as may be required for proper evaluation by the architect and the lenders.

- All proposed substitutions shall be a standard product under current manufacture and be a catalog item at time of bid.
- All requests for substitutions shall be in accordance with all other requirements of this Supplement and these specifications.
- When the architect has determined that the contractor's proposed substitution is equal to the specified item and is approved for use on the project, either the architect or the contractor shall secure the concurrence of the lenders in such determination.
- Acceptance of substitutions shall not relieve the contractor from responsibility for complying with requirements of the Contract Documents. The contractor shall be responsible for changes in other parts of the work caused by its substitutions and shall bear their expense.

C. TESTS AND INSPECTIONS

TESTING PROCEDURES

- The contractor shall not make any required tests upon portions of the work already completed except with the written consent and under the direction of the architect or the lenders. The contractor shall repair all damage caused by the taking of any test or the making of any inspection hereunder at no additional cost to the owner.
- Whenever the soils report, specifications, architect and/or lender requires or recommends tests or inspections to be performed by a testing agency, they shall be performed by a testing laboratory or agency approved by agreement between the contractor and architect or engineer.
- The testing laboratory or inspection agency shall keep a record of all tests and inspections made. Copies of test and inspection reports shall be issued as follows:
 1. Two copies to the contractor. (One copy shall be kept on file at the project for examination by the architect and CalHFA.)
 2. One copy to the architect.
- The cost of all tests and inspections shall be paid for by the contractor, unless otherwise expressly provided.
- When retests or reinspections are required because of the failure of any specified test or inspection, the cost thereof shall be borne by the contractor.

REQUIRED TESTS AND INSPECTIONS

Testing required shall be as set forth in the following schedules. Tests and inspections shall be performed on the listed material or services and all other portions of the work as required by local code authorities and those provisions of the applicable California Administrative Codes and the current edition of the Uniform Building Code.

FINAL SOILS REPORT

A geotechnical or soils engineer shall be retained during construction to perform all observation/ inspection services as recommended in the project soils report. A Final Soils Report shall be given to CalHFA that documents and certifies that all recommendations of the Preliminary Soils Report have been complied with.

SCHEDULE

The following listed materials shall be sampled, inspected and tested in order to comply with the requirements of the contract and the various building authorities having jurisdiction over the project.

- Excavation
 1. Inspection of excavation of stripped areas to determine that adequate excavation has been performed.
- Soils
 1. Inspection and approval of on-site native soils to be used as fill materials under buildings and paved areas.
 2. Inspection and approval, including required tests, of imported fill materials to be used under building and paved areas and general site earth work.
 3. Field density tests for compacted fill under building and paved areas are required (a minimum of 2 tests for each 2-foot lift of compacted fill). There shall be one sample tested per 1,000 square feet of area per lift. At the contractor's option, continuous inspection may be provided with appropriate number of tests as determined by an approved testing laboratory.
 4. Aggregate base compaction test at asphalt paving. Minimum of three tests.
- Reinforcing Steel
 1. Bar sample and test for all bars #5 and larger, (Mill certificate and I.D. are acceptable).

- Concrete Tests
 1. Test job sample cylinders in accordance with the applicable sections in U.B.C. 1903.
 2. Concrete durability quality and mix shall conform to the processes, standards, and requirements of U.B.C. Sections 1904 and 1905.
 3. Maximum slump (unless accepted otherwise by the project structural engineer).

Part of Structure	Maximum Slump
Foundation wall	4"
Slabs on grade	3"

D. TEMPORARY FACILITIES AND CONTROLS

PROJECT OFFICE

Provide and maintain, for the duration of the contract, a project office, complete with heat, light, ventilation, telephone, plan rack and convenience outlets. Office shall be of sufficient size for contractor's personnel and operations and shall provide desk space for use of the architect and lenders' inspection personnel during project review.

SANITARY FACILITIES

Provide temporary toilet facilities for all personnel employed on the project. Maintain toilets in a clean and sanitary condition at all times. Remove at project completion.

FENCES AND BARRICADES

Around the construction site erect fences and barricades as required by local authorities. Maintain in good condition until completion of the project.

CONSTRUCTION SIGN

No later than the time of commencement of foundation work a construction job sign at least 4' by 8' shall be erected containing the following minimum information:

- Name of the Development
- The statement "Permanent Financing Provided by the California Housing Finance Agency"

- International Symbol for Accessibility (Handicap Logo)
- Equal Opportunity Housing logo with the words "Equal Housing Opportunity"
- Any other information desired by the owner

Drawings for approval of sign layout indicating field dimensions, colors, lettering types and sizes shall be submitted to architect and CalHFA for approval. Mount on 4 X 4 posts and brace as directed by the owner. Sign shall be lettered by a professional sign painter, and the layout shall be approved by the owner, architect and CalHFA. Locate on site as to be visible to the general public from a major public way.

CLEANING

During the progress of the work, keep the building and the site reasonably free of debris and waste materials. Remove major debris and waste at least weekly. Do not burn or bury any material on the site.

E. PROJECT CLOSEOUT

GUARANTEES AND WARRANTIES

Contractor shall guarantee all work and materials for a minimum of one year except as listed below. The guarantee period shall be based on the date of completion of the work and certificate of occupancy. During the guarantee period, the contractor shall immediately, at his/her own expense, replace any defects or faulty materials found after the acceptance of the building(s) and project, upon notification by the architect and/or CalHFA. This includes any damage to non-defective work.

- The following work shall be guaranteed in writing for two years, unless otherwise noted, after acceptance of the building in accordance with previous paragraph.
 1. Roofing (3 years)
 2. Sheet metal
 3. Caulking and sealants
 4. Wood doors
 5. Elastomeric coating, (if any)
 6. Damp proofing
- Written one year guarantee: All other work of the project except where a longer guarantee period is specified.

DELIVERY OF FINAL DATA

Final payment will not be authorized until contractor:

- Furnishes the architect a breakdown of final costs of the job as adjusted by change orders.
- Furnishes the owner with service manuals, operating instructions and guarantees as specified.
- Furnishes the owner and the lenders "as-built" drawings of all trades provided in the Contract Documents, prepared in accordance with the Agency's Special Conditions.
- The submission by the contractor to the owner of a list (by serial number) of all easily removable items which are not part of the realty.

CORRECTION OF DEFECTIVE WORK

- The supervising architect will issue instructions about necessary correction of defective work apparent either during construction or after acceptance, but prior to expiration of guarantee.
- Architect's charges in connection with such corrective measures, including redesign, supervision and/or inspection, shall be paid by the contractor. Provisions of this paragraph supplement the General Conditions, superseding other requirements in the contract.

APPROVALS

Approval of the work in part or as a whole by the supervising architect and/or the lenders shall not relieve the contractor of responsibility for faulty materials or poor workmanship. Such approvals may be withdrawn at any time that subsequent examination reveals that apparently satisfactory work is, in fact, defective or otherwise fails to conform to all requirements of the drawings and specifications. Such work from which approval has been withdrawn shall be replaced and redone in accordance with the contract at no expenses to owner.

FINAL CLEANING

At completion of the work, the contractor shall perform the following special cleaning:

- Remove putty stains and labels from glass; wash and polish inside and outside. Exercise care not to scratch glass.
- Remove marks, stains, fingerprints, other soil and dirt from painted, decorated or stained work.

- Clean and polish finished woodwork and laminated plastic. Clean all shelves and interiors of casework.
- Clean and polish hardware for all trades. This shall include removal of stains, dust, dirt, paint and the like.
- Remove spots, soil and paint from tile; wash and polish.
- Clean fixtures and equipment; remove stains, paint spatters, dirt and dust.
- Remove temporary floor protection; clean and polish floors, clean and vacuum carpeting.
- Clean exterior and interior metal surfaces, including doors and windows required to have polished finish, of oil stains, dust, dirt, paint spatters and the like; polish; leave without fingermarks or other blemishes.

FINAL INSPECTION

- The contractor shall obtain approval by all regulatory agencies having jurisdiction.
- A prefinal inspection will be made by the supervising architect upon written notification from the contractor that all work under this contract is complete. The CalHFA construction inspector shall also be notified. A list will be made of work determined to be unacceptable. Such work shall be corrected promptly and will be reinspected for final acceptance upon written notification by the contractor. Final inspection and acceptance of certain items of work may be deferred if conditions beyond the control of the contractor prevent conclusive determination that the conditions of the contract have been fulfilled.

ATTACHMENT III

ARCHITECT'S CERTIFICATION OF THE AS-BUILT DRAWINGS

Based upon information conveyed by the contractor, in addition to the onsite inspections and construction observations performed during our administration of the Contract for Construction as described in the Contract Documents, the As-Built Drawings, as reviewed by us and to the best of our knowledge, accurately and completely reflects the construction of the project as built.

Project Name: _____

Architect: _____

By: _____

Name: _____

Title: _____

License No.: _____

Date: _____

arch:cert:asbt:10/99

ATTACHMENT IV

CONTRACTOR'S CERTIFICATION OF THE AS-BUILT DRAWINGS

The submitted As-Built Drawings were prepared and kept current by us based upon our recording of field changes and selections made during the course of construction. All deviations, modifications and revisions from the original Construction Contract Plans and Specifications, and the locations and installations of the major utility and other service and site infrastructure systems have been completely and accurately recorded on drawings that were kept and maintained at the project site. We hereby certify the As-Built Drawings as complete, and they accurately reflect the construction of the project as built.

Project Name: _____

Contractor: _____

By: _____

Name: _____

Title: _____

Contractor's License No.: _____

Date: _____

cntrct:arch:asbt:10/99

VII. SUPERVISING ARCHITECT ADDENDA FOR DEVELOPER OR PRIME CONTRACTOR - REQUIRED

CalHFA, in its observation of the construction of its multifamily developments over the past twenty-three years, has found the services provided by a supervising architect to be beneficial to its projects. Accordingly, a supervising architect is required to perform the services described in the General Conditions of the Contract for Construction, AIA 201, as well as the responsibilities described below.

ARCHITECT'S RESPONSIBILITIES

The architect's performances shall be consistent with the mutual interest of the owner and CalHFA in achieving a high level of construction and to assure construction conformance with the Construction Contract Documents. Some major responsibilities during construction would include the following:

- Gain familiarity with plans and specifications.
- Conduct periodic visits, averaging at least twice a month. Site inspection visits should be at intervals appropriate to the construction stage to become familiar with quality of work and to confirm construction compliance to the Contract Documents.

The independent supervising architect shall perform periodic site visits and provide written reports that average twice a month. The purpose is to keep the owner and lender(s) informed of the progress and quality of the work and to determine if the work being done is consistent with the Construction Contract Documents as approved by CalHFA. The written construction observation reports should generally include the following information: date, time, duration, weather conditions, persons in attendance, work being done and percent completion, questions raised by the contractor or owner, determinations made by the architect and any questions or actions which remain pending for appropriate later action. Use the AIA G711 Standard Field Report form or a comparable form. The field reports should be written and issued no later than five (5) days following the site visits.

- Check and approve shop, truss, and other detail drawings.
- Check and approve samples and coordinate approval by CalHFA where applicable.
- Provide periodic inspection reports to owner, contractor and CalHFA.
- Review contractor's request for payments and verify validity of contractor's claim for such payment.
- Prepare and countersign construction change orders as required at the time requested in accordance with procedures noted in the Contract Documents. See also Change Orders, Part VI, Page 2.

- Interpret and clarify Construction Contract Documents as needed.
- Make sure contractor maintains "as-built" set of drawings showing all changes and the final selections of approved, comparable, or alternate products.
- Determine final completion of the project.
- Review the working drawings, specifications, and provide large scale and full size detail drawings to supplement the working drawings for completeness and accuracy of construction of the project as required.
- Advise on special problems and on changes necessitated by unforeseen conditions encountered during the course of construction.
- Advise CalHFA in writing of any omissions, substitutions, changes, defects, and deficiencies noted in the work of the contractor or any sub-contractor. Restrict the installed materials, products, and equipment to those designated in the plans and specifications. Restrict the substitutions and/or deviations to those consistent with the design architect's original concept of the architectural design character; including form, color, texture, and to items of equivalent utility such as design, size, durability, quality, maintenance, and value.
- Document permitted deviations from the Contract Documents and certify that the changes do not conflict with the plans and specifications, or are necessary to overcome unexpected conditions that would impede or prevent construction.
- Project landscape architect shall provide on-site observation of irrigation and plant material installation. A landscape punch list shall be prepared at the end of construction and a final punch list at the end of the required maintenance period.

In addition, the supervising architect shall acknowledge the following:

CERTIFICATES

Certification by the supervising architect verifying recent inspection and acceptability of the work and certifying as to the validity of progress payments, shall be executed simultaneously with such requests (if requested). The certificates shall be in the form prescribed by CalHFA and shall be based upon personal inspection of the work by the architect.

APPROVAL BY CalHFA

Supervising architect recognizes the interest of CalHFA in the project and any action, inaction, or determination by either the supervising architect or contractor is subject to acceptance or rejection by CalHFA. Supervising architect is required to act and serve in a professional capacity without bias or partiality. No portion of work of supervising architect or his/her responsibility hereunder may be sublet or delegated to anyone not acceptable to owner and CalHFA.

COPIES

Supervising architect will furnish copies of all field orders and change orders to the active lender(s).

COMPLETION CERTIFICATE

Upon completion of construction, supervising architect shall assist in final inspection and certify to the lender(s) that to the best of his/her knowledge, information and belief, and upon the basis of his/her observations and inspections, the work has been completed in accordance with the terms and conditions of the Contract Documents as accepted by CalHFA.

CONFLICT OF INTEREST

Supervising architect understands that he/she has been retained for services hereunder as an independent practitioner having no identity of interest with the developer, design architect (if design architect and supervising architect are not the same entity), contractor or any sub-contractor, and having no financial interest in the development or real estate upon which it is to be constructed other than the fee for his/her professional supervision services.

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